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ABSTRACT

The final project report evaluates services to young infants and their parents in an early intervention program for neurologically handicapped (cerebral palsied) children. Following a general report of the 1969-70 activities, evidence from evaluation research in three areas is presented. Studied were the effects of group therapy on the parents of infants, the effects of the program on the emotional adjustment of the parents and their attitudes toward raising children, and effects of the program on the physical, social-emotional, and intellectual development of the 23 children, ages 9-44 months, who participated in the intervention program two mornings per week. Evidence suggested that in general the parents became less apprehensive and more self-assured in their reactions. Adjustment to the crippled child appeared to be more difficult for the mother than the father, and mothers had more need of counseling services. The program was more successful in affecting the adjustment and attitudes of mothers than fathers. Positive shifts were recorded in mothers' attitudes toward the child's disability and toward themselves. Pre- and posttesting with the Children's Developmental schedule, an experimental rating scale, showed significant growth in the areas of physical, social and emotional, and intellectual growth in one of the two groups of children. (KW)

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Evaluation of An Early Intervention Program for Neurologically Impaired Children and Their Families.

Final Project Report

September 1, 1969 to June 30, 1970.

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Part 1 - General Report of this Year's Activities

During the school year, 1969-70, many activities in the Young Infant Program have been put into effect through the support of the Research and Demonstration grant from the Association for the Aid of Crippled Children. This part of the total report will attempt to enumerate and evaluate these new services to the young infants and their parents. Many of the aspects of the Research and Demonstration grant were focused on the development of specialized services to this infant group. Other aspects of the grant focused on a research evaluation of the effects of these new interventions. The research aspects are enumerated in Parts 2, 3, and 4, partly in this report and partly to be submitted later upon the close of the school year.

New and Innovative Services

Under the supporting grant the services to the parents and to the children were extended in a number of significant ways. During the first two years the concepts of an educational program for young handicapped infants had been established as successful and meaningful for all involved. Attendance in the program was excellent, and many mothers have asked the agency to increase the services for the older children from twice a week to three or four mornings a week. Mothers also attest to the value of the Home Service Coordinator who periodically visits the mother and infant in the home and makes concrete suggestions concerning day to day management problems of the child. The progress of the children has made it possible for fifteen out of the twenty-four now enrolled to be recommended for other programs at this or other agencies as they outgrow the need for this specialized program.

The Social Service aspect of this infants program was increased tremendously under the support of this grant. The services of a psychiatric social worker were utilized in many ways. She has been most

effective in her function as the group therapist for the mothers and fathers, an aspect which is described in detail in Part 2 of this report. Along with these parent groups, she has provided individualized counselling to many of the mothers in an attempt to expedite their transition in and out of the program. She has participated in the screening of applicants for the program, and provided the referral and consultative services which are so important to the parents of this group as they attempt to find the appropriate specialists their children need. The agency has absorbed the expenses of this staff member as an essential and inherent part of this infants program for future years.

The grant for this past year has provided the services of a speech therapist and educational therapist on a part time basis. Part time services of a speech therapist were provided for six hours a week, for a total of thirty-eight days. The therapist worked with individual children as well as with the parents of these children. In addition to the speech therapist, the coordinator of the educational program this year has had extensive training in speech therapy and has integrated the development of speech into the daily classroom activities of the children.

One of the unique services included in the program this year has been called "one-to-one." The agency has found that many children are referred to us before they are ready for our specialized infant program. Often there is a great need for individual work with the child and the parent, to help the child develop the behavioral controls and the adaptive behavior necessary for inclusion in the classroom on a permanent basis. Many youngsters are too hyperactive or distractible to make an adjustment to even our small groups with many staff members. At this point the educational therapist begins a service to the parent wherein she works with the mother in preparing the child for future introduction

into our program. This educational therapist has been invaluable in several cases where the child could not have adapted to the demands of the program without this service. The grant has provided this service for six hours a week for a total of thirty-eight days.

Also provided under the support of this research and demonstration grant was the expansion of teacher aides in the program. The agency has found that it is essential to have as many as four adults present with a group of ten or twelve infants from one to four years of age. Consequently, part time teacher aides have been employed on a regular basis to help the teacher in the classroom. In addition to this, students from surrounding colleges and universities have been employed on a part time basis as teacher assistants in the program.

During this past year, an intensive effort has been made to enroll even younger children in the program. While the program had been successful for the first two years of the project for two and three year old children, it was felt that it was necessary to intervene at an even earlier stage in the child's life. Consequently, efforts were made to modify our program to move the minimum age requirement in the program from eighteen months down to an age of twelve months. Several such younger infants were included in this year's program, and one infant was introduced into the program at an age of ten months.

The problem of disseminating information about this program was attacked in many ways. The agency has, as was earlier noted, welcomed graduate and undergraduate students from surrounding colleges and universities. Many visiting groups of students have observed and participated on a short time basis. The program can often recruit volunteers from local service agencies. The Director of the Childrens' Services, Mrs. Goidel, presented two papers concerning the Young

Infant Program during the year. One paper was presented at a national conference in December on Early Childhood Education and another at a conference in N.Y. State concerning programs for the handicapped. Mrs. Goidel is now a member of the advisory council to the New York State Cerebral Palsy Association as it plans for a curriculum Institute for the fall of 1970. We have also received many inquiries concerning our program, both in the form of written letters, and in visits from other agency personnel who are in the New York City area and are planning similar programs. As the results from the research analysis become available, articles will be submitted to the professional journals describing our experiences with this project.

In summary, the grant has provided a variety of new and valuable services to the children and parents in this program. The agency has assumed the support of many of these new services and the program will continue on both a service level and a modified research project, which is described in Part 2. Two unmet needs seem apparent from our experience this year. The first involves the services of a physical therapist in the program on a much stronger and more involved level. Teachers and parents now in the program strongly recommend that attempts be made to include the services of a physical therapist who can work in the classroom, individually, with the parents, and perhaps even in the home.

Secondly, with all the success which we have enjoyed in this research and demonstration grant, the staff feels that our success has led to many more areas of question and concern. While our classroom activities are now quite successful with the children, we recognize that an organized curriculum which would describe these successful aspects of the program and relate them to the specific types and ages

of children is not available in the professional literature. While we are successful with the children, we are not always sure why. We feel the program has quality and meaning for many others in the field, but we have not recorded, developed, tested, and validated the various aspects which would allow us to publish it as a curriculum guide.

Part 2 - Research Analysis of the Effects of Group Therapy on the Parents of the Young Infants

As was indicated earlier, there were several types of therapeutic intervention. During the day the mothers participated in a weekly group led by the psychiatric social worker. There were two of these groups, one met on Monday and consisted of twelve (12) mothers, and the other met on Thursday and included ten (10) mothers. In addition to these groups, the psychiatric social worker met with a group of fathers every other Monday evening. A special program of therapy with both the husband and wife as a couple was also instituted during the year. This program was offered to any and all who would participate as a couple. A consulting psychologist was hired to be the group leader of this special group.

During the year the group of Monday-Mothers met with the psychiatric social worker a total of twenty-five times. The Thursday-Mothers' group met for a total of twenty-two times, due to the fact that several holidays fell on Thursday. The Fathers-Monday group met for a total of sixteen times on a bi-weekly basis. The Couples group met for a total of sixteen sessions also. After each session the group therapist was required to rate each participant on a standard group therapy rating scale. In addition to this, weekly and monthly summaries of progress were written. This part of the report attempts to summarize the results from these weekly ratings by the therapists.

The Group Therapist Recording was the instrument used for these weekly ratings. It is a series of twelve items, each of which has responses which are coded on a one to five scale. The twelve items cluster into two categories, Participation in the Group, and measurement of Attitudes. The category of Participation included items such as frequency of participation, quality of participation, role assumed during the session, style of relating to the therapist, attitude toward the group experience, and an estimate of progress in the group experience. The measurement of Attitude category included items on the problems expressed, the attitudes toward the child and toward the child's disability, the attitude toward the self, changes in behavior or mood, and any unresolved problems.

To evaluate therapeutic progress in each of the groups it was decided to compare two segments of the group, one in the beginning and one at the end. Each segment included approximately eight weeks and during these eight weeks an average of fifty participants were rated for each group. From these fifty ratings during both the beginning period and the final period it was possible to calculate the average or Mean rating on each of the twelve items on the Group Therapist Recording scale. Since the responses were scored from one to five, the majority of the means were near 3.0, or to be exact the average rating by the therapists was slightly above that (3.3). Growth or change would be indicated by a change from the first to the last period, or say from 3.1 to 3.5, and similarly, regression would be indicated by a decrease in score.

Before each group's progress is analyzed, some general results are in order. All four groups were combined in an effort to answer two questions. Which items were consistently rated high or low by the

therapists, and which items in general gave evidence of being most or least affected by the group experience. In terms of the total ratings by the therapists, the two items which were rated highest were a) attitude toward the group experience, and b) the style of relating to the therapist. The two items which were consistently rated lowest were the a) major unresolved problems and b) the problems expressed in the group. Another interesting result of this analysis was that the self rating was lower than the rating of the child or the child's disability. Complete ranking of the items for the total groups is included in the following Table:

Table I - Mean Rankings on Items on Group Therapist Recordings for Total Group.

Items - Highest to Lowest	Mean Score
1. Attitude Toward the Group Experience	3.8
2. Style of Relating to the Therapist.	3.6
3. Quality of Participation in Group.	3.5
4. Changes of Behavior or mood.	3.5
5. Progress in the group experience	3.5
6. Attitude Toward the Child.	3.4
7. Attitude Toward the Disability.	3.4
8. Frequency of Participation.	3.2
9. Attitude Toward the Self.	3.2
10. Role Assumed During the Session.	3.1
11. Major Problems Expressed.	3.1
12. Unresolved Problems.	2.5

Mean Rating equals 3.3, Standard Deviation equals .358.

A similar analysis was done concerning the shifts on each item for the total group. Table 2 below summarized these changes.

Table II - Mean Change for Each Item - Beginning to End.

Item	Mean Change	Attitude	Participation
1. Attitude Toward the Disability.	+1.150	x	
2. Attitude Toward the Self.	+0.775	x	
3. Changes in Behavior or Mood.	+0.625	x	
4. Attitude Toward the Child.	+0.450	x	
5. Style of Relating to the Therapist	+0.450		x
6. Estimation of Progress in Experience.	+0.450		x
7. Unresolved Problems	+0.425	x	
8. Major Concerns or Problems Expressed	+0.325	x	
9. Role Assumed during Session.	+0.175		x
10. Attitude toward Group Experience.	+0.100		x
11. Quality of Participation.	+0.050		x
12. Frequency of Participation.	- .025		x

Mean Change was .416, Standard Deviation was 0.332.
"t"= +4.333, (.01)

Several conclusions can be drawn from the above table. The most progress for all parents concerned their attitudes toward the disability and their attitudes toward their self-image. Coupled with this was a strong positive shift in attitude towards the child. In general, those items which attempted to measure movement in feelings as opposed to movement in participation recorded stronger positive changes, that is, more growth was present in the areas of the parents feelings than in the quality of their participation in the group experience. As a total group significant change (.01) was recorded in their scores.

Since the result for all parents in this counselling program were highly significant statistically (.01 level of confidence), an analysis by separate groups was made to see which made more or less progress. In each case, the average score on each item was compared for the initial eight week period and the final eight week period, to see if significant changes occured. The results of these separate analyses

are reported in Table 3 which follows:

Table III - Summary of "t" Scores for Separate Groups

Group	Total Instrument	Attitudes	Participation.
1. Mothers - Monday	2.099	2.953*	0.421
2. Mothers - Thursday	3.548**	3.786*	1.701
3. Fathers - Monday	1.347	1.801	-0.837
4. Couples	5.580 **	3.351*	4.717**

* indicates .05 level, ** indicates .01 level of confidence.

When the separate groups are analyzed in the above manner several results are evident. Firstly, no significant progress was recorded within the Fathers group, in either the total instrument, or in the area of attitudes, and indeed, a negative effect was recorded in terms of their participation although it was nowhere near significant. Secondly, the mothers made significant progress in relation to their attitudes, but not their participation - the patterns of participation which they bring to the experience seem to remain the same. Also, the Thursday group, which included several mothers who were single parents made more progress than did the Monday group.

The results of the Couples Group is somewhat confusing. The therapist was different from the therapist who conducted the three other groups. The group was in constant danger of disbanding and a lot of resistance was met in this couples situation. Yet the results show the most significant shifts within that group, both in the areas of attitudes and participation. Other empirical evidence does not support these findings, as will be noted in the next section. The attendance dropped

steadily with time and often parents were almost coerced into attending, yet positive shifts were recorded. It can only be hypothesized that since the therapist of this group was different, and had used these rating scales before, there might have been an unconscious biasing in his rating.

A final analysis was made of this data. As was indicated several types of programs were available to the mothers and fathers. The patterns of the attendance of the parents fell into three forms, mothers who attended daily groups but whose husbands did not participate, mothers whose husbands did participate in the fathers group, and mothers whose husbands participated in the fathers group and also in the couples group. There were seven in the Mothers Only group, six who attended regularly in both Mothers and Fathers groups, and six who consistently participated in all three groups, Mothers, Fathers, and Couples. Table IV presents the results of the analysis of these three sub-groups.

Table IV - Summary of "t" Scores for Sub-Groups.

Group	Total Instrument	Attitudes	Participation
1. Mothers Only	2.246*	2.981*	0.500
2. Mothers and Fathers Groups	4.061**	3.185*	3.357*
3. Mothers, Fathers, & Couples	1.400	2.258	-0.638

* indicates .05 level, ** indicates .01 level of confidence

In the above analysis, only the daytime rating of the mothers were analyzed, in an effort to measure the impact of the fathers participation on the adjustment of the mother. The intent was to see change in the mothers as associated with the involvement of the other half of the family - the father. Significant growth was seen in those mothers whose husbands did not attend at all, and those whose husbands attended the

fathers group. However, participation in the couples group did not associate itself with significant progress on the part of the mother. Here again the discrepancy is evident, the involvement in the couples group did not seem to help the mothers, while as a separate couples group, the other therapist recorded considerable progress. Evidence to this point will be presented in another section which deals with an independent measure of adjustment and attitudes done by the researcher. In any event, this aspect of the program must be considered successful for the majority of the mothers involved.

In light of the preceeding results of this year's therapy program with the parents of the young infants the agency has decided to continue this aspect of the program as an integral part of the total services offered. Three years of experience with this program has led to certain guidelines which will be used in the future. Therapy groups will be maintained during the school day for the mothers under the direction of the psychiatric social worker. The involvement of the father, either in a separate fathers' group or in couples groups will be modified to allow for further experimentation in this area.

The program which is being planned would include a unique arrangement. Co-therapists are being sought to lead the evening program offered to parents as couples. Both therapists would be psychiatric social workers, and one would be male and one female. The structure of the evening session would also be modified to the following pattern. The evening would consist of two fifty minute sessions, the first as a couple with both therapists, and the second session separately. That is, for the first hour both therapists would run a combined group. For the second hour the male therapist would be with the fathers, and the female therapist with the mothers.

The impact of the male therapist on the fathers will be researched in the program. This study will be supported by this agency, and the results will be integrated into the proposed program for the development of a curriculum for the infants. The interrelationships between parent progress in the therapy program and the child's progress in the school program will be investigated in this manner, giving the agency evidence to guide future programming for these young handicapped families.

Part 3 - Research Analysis of the Effects of the Program on the Emotional Adjustment and Attitudes of the Parents.

In an effort to measure the effects of the therapeutic program on the parents the following tests were given to both the mothers and fathers. In each case the parents were asked to complete these instruments both at the beginning and end of the school year. Scores were then compared to see if any significant changes could be found. Eleven fathers and thirteen mothers participated in the pre-testing. Eight fathers and fourteen mothers participated in the post-testing. Both pre and post scores were available for eleven mothers and seven fathers. For the following analysis three groups were considered, six mothers in the Monday group, five mothers in the Thursday group, and seven fathers. All eighteen were also considered as a total group.

Two instruments were used in this phase of the study. Two factors were being measured, the emotional adjustment of the parents, and the parents' attitudes toward raising children. To measure the parents' adjustment the Anxiety Scale of the Sixteen Personality Factor Questionnaire by Raymond B. Cattell was used. The Anxiety Scale consists of seventy-two questions which yield scores on six separate personality factors. By means of a multiple regression formula these six factors combine to yield a score on Anxiety. Age and sex normative data are available, and the test is appropriate for use with the normal personality. Items are constructed so that one of three choices must be marked for each item.

To measure the parents' attitudes toward raising children, the Parental Attitude Research Instrument, by Schaeffer and Bell was used. This instrument was developed at the National Institute for Mental Health, and again was designed to be used with the normal personality. It is made up of items which are rated on a four point scale. While the whole scale includes one hundred items, only forty items were used in this study. These items represented

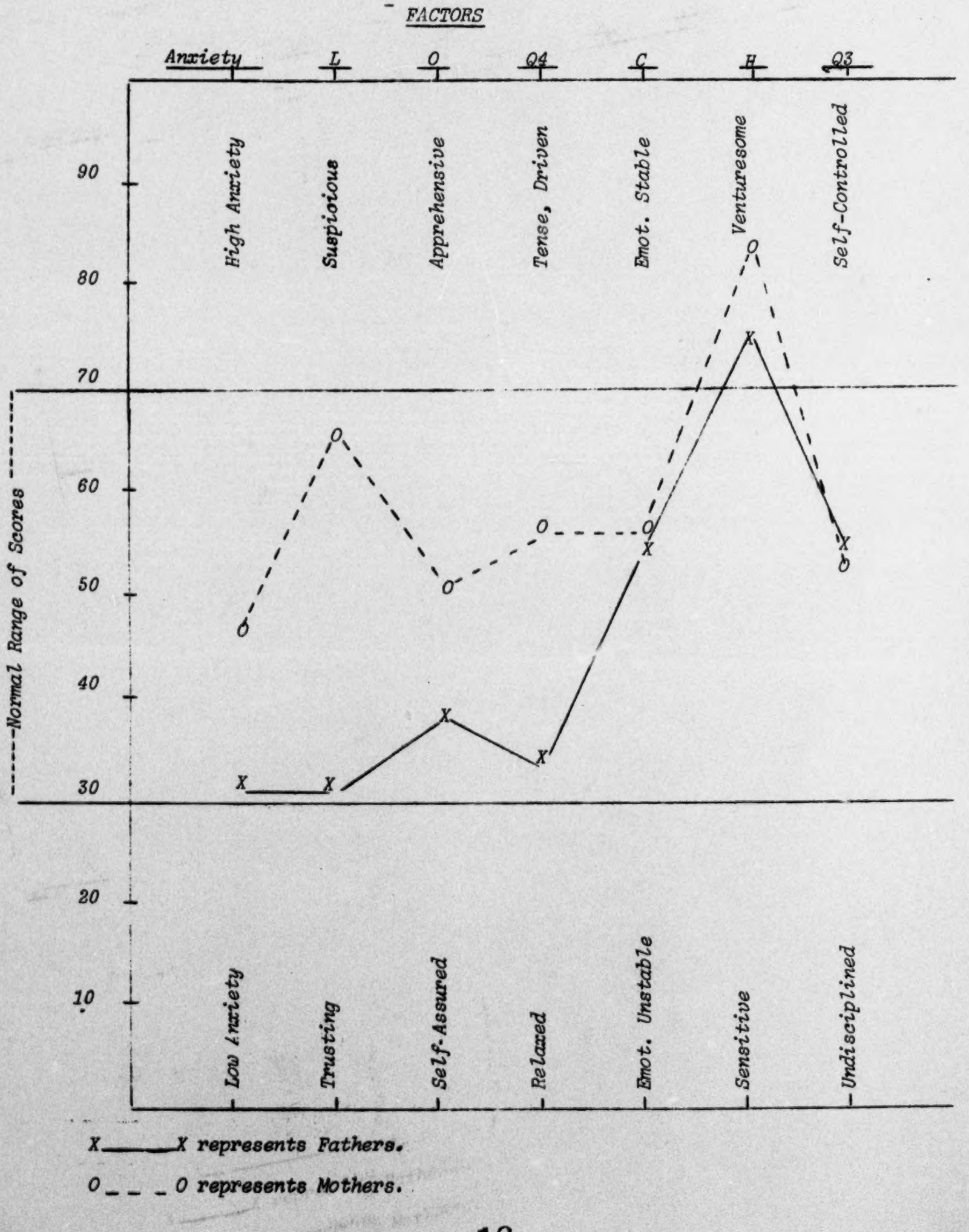
the eight scales which were felt to be the most useful in this study.

The results of the Anxiety Scale will be considered first. The graph which is presented as the next page represents the information from the pre-testing of the thirteen mothers and eleven fathers. This graph gives the scores for both mothers and fathers on all six factors, L, O, Q4, C, H, and Q3. It also gives the average score for mothers and fathers on "A", or Anxiety. Inspection of this data suggests the following conclusions concerning this group of parents we were studying. In terms of overall anxiety, the mothers scored higher than the fathers, the 46th percentile as opposed to the 31st percentile. However, it should be noted that both groups scored within the average range of anxiety. This bore out our assumptions that these parents were generally healthy and did not represent any clinical pattern which would indicate emotional disorder.

In the manual for scoring the test there are both male and female norms. Consequently, the discrepancies between the fathers and mothers are interesting to note. On the three factors L, Q4, and O we did observe differences. Factor L measures a continuum of Trusting versus Suspicious, and the higher scores by the mothers place them above the fathers to a remarkable thirty-five percent. Factor O measures the tendency to be Self-Assured versus Apprehensive. The mothers fall at the fiftieth percentile, the fathers at the thirty-eighth percentile. Factor Q4 measures the tendency to be Relaxed versus Tense. The mothers scored at the fifty-sixth percentile, and the fathers at the thirty-third percentile. Consequently, the mothers are seen as more suspicious, more apprehensive, and more tense than the fathers in our study.

One other important note should be made concerning the extremely high scores that both the mothers and fathers made on Factor H. Both of these scores, the eighty-fourth percentile for the mothers and the seventy-sixth percentile, are outside of the average range. In a sense, these scores

Young Infant Program - 16 P.F. Mean Scores



separate them from the normal population. Factor H measures the continuum of Threctia versus Parmia, or Threat Sensitivity versus Venturesome-Uninhibited Behavior. Both the mothers and fathers show extremely high tendencies toward venturesome or uninhibited behavior. Perhaps having a handicapped child has forced them into this type of reaction as a compensation, or as a necessary life style if their children are going to get the services they will need as they grow up.

Factor C measures ego strength and is seen to be in the average range for both mothers and fathers. Factor Q3 measures their ability to control their own actions and reactions, and again falls in the normal range for both fathers and mothers.

The table below summarizes the results of pre and post comparison on the Anxiety Scale, as well as with all of the sub-tests.

Table I - Summary of Significant Changes - 16 PF.

Factors:	All Parents	Mothers-Monday	Mothers-Thursday	Fathers
Anxiety	0.532(NS)	-0.616(NS)	-0.534(NS)	0.088(NS)
L	(NS)	(NS)	(NS)	(NS)
O	-1.997 *	(NS)	(NS)	(NS)
Q4	(NS)	(NS)	(NS)	(NS)
C	(NS)	(NS)	(NS)	(NS)
H	(NS)	(NS)	(NS)	(NS)
Q3	(NS)	(NS)	(NS)	(NS)

* significant at .07 level.
(NS) indicates Not Significant.

The above table indicates that there were no significant changes in the scores on the total anxiety scale. Since the anxiety levels were normal to begin with, this result is not that disappointing. We were not working with highly anxious or neurotic patients, we were working with fairly stable parents.

It is interesting to note the average levels of anxiety in these parents.

The literature on the adjustment of parents with handicapped children would suggest the opposite; that is, that we could expect the parents to have high levels of anxiety as the child's handicap makes an impact on the parents' self-image and adjustment. It can be hypothesized that these parents had a history of healthy adjustment in their own lives before a handicapped child was born to them. Their children are very young and the parents have not lived more than one or two years with the disabled child. The parents have not faced years of adjusting to the child's disability, and consequently, at this point, are still healthy.

The one significant change approaches the .07 level of significance which indicates that over the year the parents, all eighteen, became more self-assured and less self-reproaching or apprehensive. No significant change was seen on Factor H, and at the end of the study the parents were still uniquely above the average population in this factor of being venturesome and socially uninhibited.

The other instrument used in this section was the Parental Attitude Research Instrument, referred to as the PARI. Eight scales were used in our study, and on each scale a possible score from five to twenty was indicative of a low to a higher or more positive adjustment in each area. Table II below summarizes the mean scores on each scale for both mothers and fathers at the time of the pre-testing. A score of 12.5 would be average.

Table II - Pre-Test Mean Scores for Mothers and Fathers - PARI.

Group	1	2	3	4	5	6	7	8
Fathers:	17.6	11.9	11.0	10.5	10.8	12.5	10.1	8.5
Mothers:	18.1	10.6	9.6	7.0	9.1	9.7	8.0	7.4
Difference:	.5	1.3	1.4	3.5	1.7	2.8	2.1	1.1

The above table indicates that the fathers had more positive attitudes toward child rearing then the mothers in seven out of eight scales. The greatest discrepancy occurs in Factors 4, 6, and 7. These represent the area of Strictness of Discipline, the mothers being more strict; Suppression of Aggression, the mothers suppressing aggression more; and Ascendancy of one parent, the mothers showing more need to be the dominant one in the marriage.

Table III presents the results of "t" tests to study change from pre to post testing with the Parental Attitude Research Instrument.

Table III - Significant "t" scores on PARI.

Factor:	Groups All	Mothers-Monday	Mothers-Thursday	Fathers
1. Encouraging Verbalization	NS	NS	NS	NS
2. Fostering Dependency	NS	NS	NS	NS
3. Breaking the Will	2.080*	NS	NS	NS
4. Strictness of Discipline	-2.185**	-5.479***	NS	NS
5. Excluding Outside Influences	NS	NS	NS	NS
6. Suppressing Aggression	NS	NS	2.253****	NS
7. Ascendancy of one Parent	NS	2.200*****	NS	NS
8. Intrusiveness	NS	NS	NS	NS
9. Total Score:	1.654(NS)	2.131(NS)	0.729(NS)	0.605(NS)

*= .07 level.
**-.05 level.
***=.01 level.
****-.07 level.
*****=.07 level.

The results of the preceeding table suggest the following conclusions: Very few changes in attitudes can be seen as significant. The parents as a total group were less concerned with breaking the will of their children at the end of the year. The parents as a group seemed to score more strict on matters of discipline, but on further analysis it can be seen that the Mothers in the Monday group account for the drastic change on this factor. This group of Mothers on Monday became much more strict, but did also become more willing to share responsibility or be less ascendant. The mothers in the Thursday group

were more able to allow expression of aggression after the year's experience. No significant changes were noted in the group of fathers alone.

In summary, this part of the research report dealt with the adjustment of the parents as measured by an anxiety scale and a child rearing attitude scale. The parents were found to be basically free from any high level of anxiety, while the mothers were noted as having more anxiety than the fathers. Both mothers and fathers appear to score extremely high on the factor of uninhibited or venturesome behavior. The only significant (.07) shift seemed to occur in the area of the parents being less self-reproaching and more self-assured at the end of the year.

Attitudes of the parents toward child rearing were modified slightly. They seemed less anxious about breaking the will of the child and less anxious about making the child conform to their demands. The Mothers in the Monday group became less ascendant, but much more strict over the year. Thursday group Mothers were able to allow more expression of aggression. The fathers did not really register any significant changes.

The lack of change in the fathers was noted in the weekly record of the therapist as well. We have hypothesized that the fathers are identifying with the female therapist as they would with their wives. It would appear that this transference relationship was not utilized by the therapist. Consequently, we have hired a male therapist to work with the fathers during the coming year. We hope the male therapist will have more impact on the fathers.

Part 4 - Research Analysis of the Effects of the Program on the Development of the Children.

A total of twenty-three (23) young children participated in the program. All of these children attended twice a week during the morning. The twenty-three children were split into two groups. One group attended on Monday and Thursday and the other group attended on Tuesday and Thursday. Consequently, a schedule was maintained so that the teachers worked with all the children together on one day, and in separate groups on two other days. For the purposes of this section of the report, those children who attended on Monday and Thursday will be designated the Monday group. Those children who attended on Tuesday and Thursday will be designated the Thursday group to coincide with the designations made in the section dealing with the effects of group therapy on the mothers.

The average or mean age of all twenty-three children, calculated at September of 1969 or upon their entrance into the program during the year, was 32.3 months or 2 years and 8 months. There were fifteen boys and eight girls in the total group. The range of ages at entrance to the program or at the beginning of the school year went from nine months of age up to forty-two months of age. Four children joined the program during the year, two in January, one in February and one in March. Table I below indicates the distribution of the children by age at their entrance into the program or at the beginning of the school year.

Table I - Ages of Children in Months - September 1969.

Age	f	Age	f	Age	f	Age	f
9-11	1	18-20	3	27-29	1	36-38	3
12-14	0	21-23	0	30-32	3	39-41	5
15-17	0	24-26	1	33-35	4	42-44	2

The evaluation of the children's progress in academic, social and emotional, and physical development was made by the use of pre and post ratings of each child by the team of teachers working with this particular child. Each child was rated on a Children's Developmental Schedule during the month of November and again at the end of the school year. Since five of the children entered the program during the school year, no evaluation of growth was possible for them. Of the eighteen children who were pre and post tested there were eight (8) in the Monday group and ten (10) in the Thursday group. The mean age of the eight in the Monday group was 34.0 months, and the mean age of the ten in the Thursday group was 36.3 months at the beginning of the school year. Of those included in the analysis of growth, in the Monday group there were six boys and two girls, in the Thursday group there were six boys and four girls.

The evaluation of growth at these ages is extremely difficult. For the group of physically handicapped or crippled children whom we serve in this special program this is even more difficult. Many standardized instruments were considered and discarded because they did not appear to be appropriate for our special population. Often these instruments did not tap the areas of growth which we wanted to measure. As a result of this dilemma, a new instrument was developed, the Children's Developmental Schedule. This instrument was constructed as a rating scale which could be applied by the classroom teachers.

Three major areas of functioning were tapped by this new instrument. These areas were the child's physical development, the child's social and emotional development, and the child's intellectual or pre-reading skills. In developing this instrument which the teacners could use it was necessary to adapt parts of several other instruments. In addition to these parts the teaching staff added items which they considered representative of

the activities which were built into the daily program. Parts of the Vineland Social Maturity Scale, the Pre-School Attainment Record, Catell's Infant Intellectual Scale, and the Gough Adjective Check List were all adapted for use in this Children's Developmental Schedule. It should be noted at this point that the adaptation of the Gough instrument was very experimental, since it is designed for use with adults. At the end of the school year, the teachers met with the research associate and suggested even further revisions and clarifications of the instrument.

In general each item in the Children's Developmental Schedule was designed so that a four point rating scale could be presented to the teacher. There were a total of one hundred twenty-four items in the entire scale. Part A, concerning Physical Development included forty-five items, Part B, concerning Social and Emotional Development included forty-one items, and Part C, measuring Pre-Academic Skills included thirty-eight items. The teachers were not apprised of their pre ratings when they were working on the post evaluations. In terms of the analysis of this data, all twenty-three children were considered together, as well as each of the two groups separately. Each section, Physical Development, Social and Emotional Growth, and Pre-Academic Skills was analyzed in terms of growth from pre to post testing. Tests of significance of the amount of change were calculated for each of the groups for each of these three areas.

Table II below presents a summary of the results of this statistical analysis of growth by use of the "t" test.

Table II - Summary of "t" Scores on Children's Development Schedule.

Area of Rating	GROUPS		
	Monday Group N=8	Thursday Group N=10	Total Group N=18
Physical Development	+0.492 N.S.	+2.857*	+2.267*
Social and Emotional Growth	-1.197 N.S.	+3.943**	+1.049 N.S.
Pre-Academic Skills	-3.230*	+3.141*	+0.140 N.S.
Total Scale	-1.880 N.S.	+5.254**	+1.078 N.S.

*= .05 level, **= .01 level of confidence.

It is logical to expect growth on the part of children over a period of seven months. If the instrument is sensitive enough, if the raters are fair and objective, and if the classroom program is meaningful then we can expect to record growth even in these very young handicapped children. For the total group of eighteen children positive "t"s were recorded in all areas indicating growth, and in the area of Physical Development significant progress was recorded at the .05 level of confidence. The growth was also studied by separate group, Monday or Thursday.

Little progress or growth was evident in the Monday group. No significant changes were observed in their Total Scale. Negative results were observed in the areas of Pre-Academic Skills, Social and Emotional Growth, and in the Total Scale. Positive results were found in the area of Physical Development. Teachers rated this group significantly less capable in Pre-Academic Skills on the Pre and Post Testing.

The Thursday group, on the other hand, made significant progress in all of the areas tested. Significant growth or change was observed in the areas of Physical Development and Pre-Academic Skills at the ,05 level. In the area of Social and Emotional Skills these children made growth which was

significant at the .01 level of confidence. It is interesting to note that the mothers of these children also provided evi[illegible]of significant growth in the therapeutic program.

The results of the analysis of this part of the Young Infants Program can be outlined as follows: The measurement of growth in the classroom was recorded by an experimental instrument, the Children's Developmental Schedule. It was constructed to represent the types of activities that make up the daily classroom program. The length of time between pre and post testing was seven months, and recorded progress or change can logically be expected if the instrument is sensitive enough. For one group, significant progress was recorded in all areas of functioning. The impressions given by the teaching staff support these findings that this was the more successful group. In the other group positive changes were recorded in the area of Physical Development. One significant negative shift was observed in the area of Pre-Academic Skills.

The Children's Developmental Schedule was an experimental rating scale. While parts of it had been standardized on normal or retarded populations, it had not been standardized on a population of young crippled infants. Also, under the present research limitations it was impossible to age code any of the new items that were introduced in the scale. For the majority of our children it has proven to be appropriate and capable of recording progress at short intervals of time. One section is being revised to provide more extensive information about the typical developmental tasks of these infants.

It is our hope that this scale will be found useful in the next part of our research on these young children. As we have outlined in the attached proposal we would like to study the curricular activities of these children. We have begun the process of training the teachers to be observant of the children's behavior through the use of this rating scale. We hope to expand our observational techniques next year, using the scale as one part, to the

point where we can observe and record the developmental activities of these young infants in the areas of their physical, emotional, and intellectual growth.

Part 5 - Summary of the Year's Activities, Conclusions, and Recommendations.

During this year the grant from the Association for the Aid of Crippled Children supported many new and important additional services, as well as allowing us at United Cerebral Palsy of Queens to evaluate our effectiveness in dealing with the young crippled infant and his parents. With the grant we were able to provide additional services of a speech therapist on a part-time basis, a unique program of one to one educational counselling for parents and children who were waiting to enter our program, additional classroom help in the form of teacher aides, and an intensive program of counselling for the parents. At the same time an effort was made to introduce some research techniques into the program, hoping that we would have some evidence which would support our analysis of the growth of the children.

Preceeding parts of this report have presented the evidence we have accumulated over the year. The counselling program was the most intensively observed and has given us the most evidence concerning the value of our program. The evidence from our group of parents suggests that they are basically healthy young adults who are attempting to adjust to their crippled infants. The evidence suggests that this is a more difficult adjustment for the mothers to make, and that they have more need of counselling services. A significant impact was seen in the adjustment of the mothers. Significantly positive shifts were recorded in the mothers' attitudes toward the disability of the child and in their attitudes toward themselves. The mothers were more able to allow the expression of appropriate aggression in their children, and were less likely to try to dominate the marriage. One group of mothers

appeared to become more strict over the year in terms of disciplining the child.

In general the parents became less apprehensive and somewhat more self-assured in their reactions. They, both mothers and fathers, remained uniquely outstanding in the characteristic of being bold, venturesome, and uninhibited; suggesting that they have adopted a compensatory drive as a reaction to their child's disability as a way of insuring adequate care for the crippled infant. The program appeared to be more successful in changing the mother than in changing the attitudes or adjustment of the father. Since the mother's adjustment was poorer, it seems advantageous that our program was more effective with the mothers. The counselling program will continue next year under the sponsorship of United Cerebral Palsy of Queens. In an attempt to have a greater impact on the fathers we will be adding a male therapist as the 2nd group leader. In future years we hope to be able to compare the results of this year to this new program.

While the major focus of the grant was in the area of parent counselling, we did begin the systematic study of the children's growth in our classrooms. We found our classroom activities to be effective with some of the children. Significant growth was recorded in one group in the areas of physical, social and emotional, and intellectual growth. The instrument used in this part of the study was experimental, in that it had not been standardized previously. This Children's Developmental Schedule is being revised. It appears to have the potential of measuring growth in these very young crippled children.

Over the past three years of this grant, United Cerebral Palsy of Queens has developed a parent counselling program which has proven itself to be effective in helping parents adjust to a crippled child. While the agency is moving ahead on its own with a modified counselling program designed to be

more effective with the fathers, the major focus of our program is now shifting toward the development of a curriculum guide for these young children. We are hoping to embark on a three year study of classroom activities which will help these young crippled children grow physically, emotionally, and intellectually. We hope to be able to document these activities and to develop a guide for other programs which deal with these very young handicapped children.